



# Weatherford®

## REAL RESULTS

### ShallowAngle QuickCut™ Milling System Tames Hostile Well for a Major Operator in the North Sea

#### Objectives

- Create a window in Q125 high-yield casing in a well in the hostile, high-temperature, high-pressure Shearwater field located in the North Sea. Junction requirements also included the ability to rotate and land a 7 5/8-in OD heavyweight liner into the production zone. There had not been a single record of a service provider successfully completing an exit in this high-tensile grade of pipe. Even in multiple controlled-facility lab tests, a previously chosen supplier had failed to breach the wall of this material.

#### Results

- The ShallowAngle QuickCut milling system, featuring CustomCut™ tungsten carbide inserts, was used to successfully complete the casing window and a 41-ft (12.5-m) rathole through limestone in one trip. A successful test operation at the Rocky Mountain Oilfield Testing Center (RMOTC) had given the operator confidence in the ability of the ShallowAngle QuickCut system to succeed in this high-profile project.

#### Value to Client

- The modular design of the QuickCut system delivered the functionality, simplicity, and versatility required for rapid deployment on a high-profile installation.
- Weatherford provided comprehensive exit solutions that enabled the operator's re-entry strategies for the Shearwater, Elgin, and Franklin fields.
- Consistent single-trip milling performance on both the test well and the final field installation provided a reduction in installed junction costs.
- Weatherford's MillSmart<sup>SM</sup> milling technology mitigated the associated risk of failure when milling in unknown or exotic casing materials.



The ShallowAngle QuickCut casing exit system was quickly deployed for a successful operation, cutting through Q125 high-yield-tensile steel off a major operator's production platform in the North Sea.

#### Location

Shearwater field, North Sea

#### Rig Type

Jackup

#### Well

Magellan Shearwater SW05-S1

#### Formation

Limestone

#### Casing Exit Depth

14,592 ft (4,448 m)

#### Hole Angle

1.75°

#### Mainbore Casing

9 7/8-in., 66.9-lb/ft Q125 high-yield

#### Products/Services

- MillSmart milling technology
- ShallowAngle QuickCut casing exit system
- CustomCut™ tungsten carbide inserts